

Rec'd PCT/PTO 19 MAY 2005 A3

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

101535603

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number
WO 2004/046127 A1

(51) International Patent Classification⁷: C07D 311/72 (74) Agent: MUELLER, Ingrid; Roche Vitamins Ltd., Patent Department (VMD), Wurmisweg 576, CH-4303 Kaiseraugst (CH).

(21) International Application Number: PCT/EP2003/010837 (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 30 September 2003 (30.09.2003) (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(25) Filing Language: English (30) Priority Data: 02025990.9 21 November 2002 (21.11.2002) EP

(26) Publication Language: English (71) Applicant (for all designated States except US): DSM IP ASSETS B.V. [NL/NL]; Het Overloon 1, NL-6411 TE Heerlen (NL).

(72) Inventors; and (75) Inventors/Applicants (for US only): BONRATH, Werner [DE/DE]; Luckenbachweg 29, 79115 Freiburg (DE). HOPPMANN, Simone [DE/DE]; Gustav-Adolf-Strasse 40, 04105 Leipzig, (DE). HAAS, Alois [DE/DE]; Medonstrasse 17, 14532 Kleinmachnow (DE). NETSCHER, Thomas [DE/DE]; Am Huligaben 2, 79189 Bad Krozingen (DE). PAULING, Horst [CH/CH]; Traugott-Meyer-Strasse 2, CH-4147 Aesch (CH).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/046127 A1

(54) Title: MANUFACTURE OF α -TOCOPHEROL

(57) Abstract: A process for the manufacture of (all- *rac*)- α -tocopherol by the acid-catalyzed reaction of trimethylhydroquinone with isophytol or phytol is characterized by carrying out the reaction in the presence of methane trisulphonate as the catalyst in an organic solvent. The product of the process is the most active and industrially most important member of the vitamin E group.